

REMARKS

Claims 1-9, 11-17, 19-24 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hung, (U.S. Patent No. 4,894,718) in view of Perez (U.S. Pat. No. 6,323,828). For the reasons set forth below, the Applicant traverses the rejection and requests reconsideration.

Claims 1-13; serial data transfer is not shown in the prior art

The Examiner contends that Hung shows a method of testing digital graphics data that includes providing digital graphics data of a predetermined type, receiving the graphics data from an output port and calculating a characteristic. The Examiner admitted however that Hung does not show ports or an interface, for which he relies on Perez. Perez, however, does not (1) show a serial data interface that is claimed in each of the claims.

The text of the Perez reference that is provided on-line by the U.S. Patent Office (U.S. Pat. No. 6,323,828) was electronically searched to determine whether the terms "port" "interface" and "serial" appear therein. The electronic search of the text of Perez revealed that the reference is devoid of the words "port" and "interface." The word "serial" appears in only column 5, line 34, but not in connection with any sort of data transfer port or mechanism. It is improper for the Examiner to rely on Perez to support his rejection under §103 when Perez is wholly devoid of any mention of a serial data interface or a serial data port.

In light of the foregoing, the Applicant submits that it was improper to reject the claims because Hung and Perez do not render the claims obvious. Neither Perez nor Hung show or suggest a serial interface between the graphics controller under test, the data graphics test apparatus over which a calculated data characteristic is transferred and the transmission of the calculated result over a serial data link. The rejection of claim 1 under 35 U.S.C. §103 should be withdrawn.

The foregoing amendments to claim 1 were made to clarify the subject matter being claimed. For example, the term "predetermined type" was deleted from claim 1 and the claim was amended to recite that the digital graphics data has an expected characteristic *value*, which the specification describes as a CRC. In addition, the claim now more clearly states that the characteristic *value* is provided to a *video* graphics port of a graphics *controller* instead of to a graphics system. The claim also recites that the graphics control is coupled to a *computer*. The serial data is transferred by a serial *data* interface. In the last step of claim 1, the data is "sent" instead of being "provided."

In light of the fact that Perez does not teach the last step of claim 1, i.e., that the "calculated characteristic from the test apparatus" is provided over a "serial data interface" claim 1 should be allowed.

As for claim 2, it expressly recites that the *expected* characteristic value recited in claim 1 is a calculated value. None of the references cited by the Examiner shows or suggests the subject matter of dependent claim 2, which includes all of the limitations of claim 1.

As for claim 3, it claims that the predetermined type of digital data of claim 2 represents different color components. None of the references cited by the Examiner shows or suggests the subject matter of dependent claim 3, which includes all of the limitations of claim 1.

As for claim 4, it claims that the predetermined type of digital graphics data of claim 2 includes a horizontal synchronization component. None of the references cited by the Examiner shows or suggests the subject matter of dependent claim 4, which includes all of the limitations of the intervening claims.

Claim 5 adds the limitation that the data type includes one of red, green and blue color components.

Claim 6 adds the limitation that the digital data includes the vertical synchronization signal, which is an analog signal in the VGA standard.

Claim 7 adds the limitation that the expected calculated data value is a CRC value, which is distinctly different from a measured voltage, the value of which can change yet be within the VGA standard.

Claim 8 adds the limitation that states that the digital graphics data is selectable. In a signature analysis, test data is not selectable. Inputs to the signature analysis shift register come from a unit under test, embodied as whatever data the UUT outputs..

In claim 9, the step of "providing the calculated characteristic..." has been amended to claim that this step "includes providing the characteristic to the computer, in addition to or instead of the graphics controller. Claim 9 also modifies claim 1 by claiming that the step of comparing the calculated value to the expected value is performed by the computer, instead of the graphics controller.

Claim 10 adds the limitation that the data reception occurs "at a test apparatus" at more than 100 MHz. In addition, the calculations and providing occur in "real time."

Claim 11 adds the limitation of a particular type of serial interface. There is no such teaching in the references relied upon by the Examiner.

Claim 12 adds a limitation that the graphics output port is for a flat-panel display. There is no such teaching in the references relied upon by the Examiner.

Claim 13 adds a limitation that the serial port is associated with the graphics output port. There is no such teaching in the references relied upon by the Examiner.

Claims 14–18; serial data transfer is not shown in the prior art

Paraphrased, independent method claim 14 claims the steps of receiving digital graphics data at a graphics port *of a graphics test apparatus*. The claimed graphics port also has a *serial data interface*. After a characteristic value is determined *at the test apparatus*, the test apparatus transfers the characteristic value *to the graphics controller* via a serial data interface that is part of the graphics port of the graphics test apparatus.

As set forth above in the argument regarding claim 1, the Examiner admitted that Hung does not show or suggest the ports claimed in the pending claims. Perez however does not even mention serial data ports or serial data interface. Rejecting claim 14 on the basis of Hung in combination with Perez was improper because neither of the references shows or suggests a serial data interface through which the characteristic value is transferred. Claim 14 should be allowed.

Paraphrased, claim 15 adds the limitation that the graphics port is part of a digital graphics interconnect port. No reference or combination of references shows such a limitation in combination with the steps of claim 14.

Claim 16 adds the limitation of a Digital Flat Panel interconnect standard for the graphics interconnect of claim 15, which is not shown in the cited prior art.

Claim 17 adds the limitation of determining and providing in real-time, which is not shown in the cited art.

Claim 18 adds the limitation that the data is received at a clock rate of at least 100 MHz., which is also not shown in the cited art.

Claims 19-22; serial data transfer is not shown in the prior art

Claim 19 has been amended only to clarify the subject matter being claimed. A communications protocol is defined as a set of rules or standards designed to enable computers to connect with one another and to exchange information. As originally filed, claim 19 claimed that the connector was to interface to a “protocol.” Claim 19 as amended claims that the connector interfaces to a *digital graphics port* instead of a digital graphics protocol. In addition, the claim recites the function of the graphics data analyzer and function of the serial bus interface.

Paraphrased, claim 19 a device for testing digital graphics data that is comprised of a connector to interface to a digital graphics *port of a graphics controller*. The claimed graphics data analyzer module is claimed to be *capable of calculating a value*, such as a CRC, from the data is receives via the connector. The claimed serial bus interface is claimed to be *capable of sending serial data* from the serial data port of the serial bus interface.

For the reasons set forth above for the allowance of claims 1 and 14, claim 19 is allowable as well. None of the references cited by the Examiner show or suggest the serial transfer of data from the graphics data analyzer module.

Claim 20 adds the limitation that the serial data port of claim 19 is coupled to a connector to transmit serial data based on the digital graphics protocol. No reference or combination of references shows or suggests the limitations of claim 20.

Claim 21 adds the limitation that the digital graphics protocol of claim 20 is the Digital Flat Panel standard.

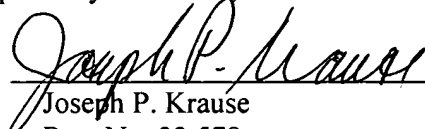
Claim 22 adds a limitation that there is a power supply terminal that receives power from a PCI bus. Neither of the references cited by the Examiner even suggest the PCI bus.

As for claim 23 and claim 24, both of these claims recite the reception of serial data via a serial data port/node. The Examiner admitted that Hung does not show serial data ports and the Applicant established that Perez does not show serial data ports so claims 23 and 24 should be allowed over the prior art of record.

In light of the foregoing, the Applicant respectfully submits that all of the claims are allowable over the prior art of record and respectfully requests reconsideration and their allowance.

Respectfully submitted,

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